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ON ADHESION OF THE VELUM TO THE WALLS OF THE
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PHARYNX.

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AS one of the results of ulceration involving the soft palate, and at the same time including the adjacent pharyngeal walls, we are liable to have a more or less complete adhesion of these parts, shutting off more or less completely the naso-pharynx from the general pharyngeal cavity. The ulceration which brings about this result is almost invariably of syphilitic origin, and belongs to the late tertiary manifestations. The earlier tertiary forms, the gummata for example, which attack the soft palate, and so often cause perforation, seldom involve the pharyngeal walls, and for this reason do not afford the conditions necessary for adhesion. Hence we often see the soft palate badly damaged, and the uvula perhaps entirely destroyed, while the communication between the upper and lower pharynx remains scarcely if at all restricted; the tension of the velum, in fact, often making the opening more ample than before. But at a later period, averaging, according to Berkeley Hill, from two to four years after infection, ulceration of the posterior and lateral walls of the pharynx takes place, and involving the junction of the velum with the latter, the resulting cicatrization produces a coalescence first at the angle of junction and then progressively toward the median line, until in many cases the adhesion becomes complete. The process is analogous to that observed in cases

of burns between the fingers. It is well known that these accidents will almost certainly result in the adhesion of the adjacent surfaces, unless the utmost care is used to prevent it, and often even in spite of the most intelligent treatment to that end. Cicatrization may take place on each surface separately, but at the point where they join a small granulating space will remain and this will creep along each finger, destroying the newly formed cicatrix, while adhesion of the opposed raw surfaces will advance at a corresponding pace. This process will continue until the limit of the cicatrix on one finger or the other is reached when it will cease, the vitality of the normal skin opposing its further progress.

This is probably the way in which adhesion of the velum takes place in most cases, the process commencing on either side at the junction of the soft palate with the wall of the pharynx and advancing slowly toward the median line. But cases do occur in which complete adhesion is effected in a very brief period, and apparently at all points simultaneously. So far as I can judge this takes place only when there has been very little abridgment of the depth of the velum, permitting its lower edge to reach readily back to the posterior pharyngeal wall; and when at the same time the movements of the palate are in a great degree suspended by infiltration and swelling. The co-existence of these two conditions renders possible a prolonged contact of the velum with the walls of the pharynx, and if both the opposing surfaces are denuded of epithelium, direct adhesion will result. The extent of the adhesion varies greatly in different cases, not only in a lateral direction but also vertically. Sometimes only a very small portion of the border is attached, at others the margin is fused throughout its whole extent with the opposing surface. Sometimes only the edge is adherent, in other cases the whole posterior surface of the velum, and the superior surface of the soft palate seem to be blended with the opposite wall. In these latter cases, which are the result of extensive ulceration and great loss of tissue, the roof of the mouth and the posterior wall of the pharynx seem to be continuous, the line of adhesion not being traceable in the confused mass of

cicatricial bands which represent the original structures. Sometimes these bands are in the form of irregular vertical digitations between which there may be one or more places in which the adhesion is incomplete, and where a probe may be passed through.

It may happen that, after complete adhesion has taken place through the healing process resulting from treatment, a fresh ulcerative action is set up, and the cicatricial tissue is swept away wholly or in part, detaching the velum again more or less completely. Such a case I am enabled to show you by the kindness of Dr. Asch.

The results of complete adhesion of the velum to the walls of the pharynx are very distressing to the patient. In addition to the inconveniences of mouth-breathing, are added those arising from inability to free the nasal passages of accumulated secretions. The annoyance from this source may amount almost to misery. But it is nearly certain to entail another affliction still more terrible, viz: deafness. A pocket is formed behind the posterior margin of the hard palate, in which the secretions accumulate and become fetid, and in this foul pool the internal extremities of the Eustachian tubes are immersed, whenever the patient assumes the recumbent posture. Inflammation of the middle ear almost necessarily results. As the difficulties of treatment are immensely increased by the greater difficulty of access, the hearing is likely to be very much impaired or entirely lost.

In cases of complete adhesion the sense of smell is always absent, owing to the lack of the current of air through the nasal passages, necessary to bring the odoriferous particles into contact with the olfactory surfaces. The sense of taste, also, which is so dependent upon that of smell, is lost or greatly impaired.

The voice has a peculiar character. It differs from that which belongs to obstruction of the nostrils, as it lacks even the small measure of resonance which the naso-pharynx affords. It is an exaggeration of the quality of voice observed when the naso-pharynx is obstructed by adenoid vegetations or by a polypus.

The treatment of this condition consists in efforts to re-establish more or less perfectly the communication between the upper and the lower pharynx. If there is any opening whatever, even barely sufficient to admit a probe, the attempt should be made to dilate this by means of sounds or of laminaria or tupelo tents. In a case under my care, some years ago, an opening less than a line in diameter was ultimately so far dilated that a bougie No. 12 (English scale) could be passed by the patient, and the size of the aperture was maintained in that way. It does not require a very ample space in order to relieve in a marked degree the discomfort of the patient. The secretions will drain away through a very moderate opening, and thus the chief cause of deafness will be removed. In like manner a very limited circulation of air through the nose will restore the sense of smell and with it the sense of taste.

If this degree of relief can be secured by dilatation, it will only be necessary to provide for the patient afterward a suitable bougie, and instruct him to introduce it daily. Neglecting its use, even for a few days only, will occasion a loss of some of the advantage gained.

In searching for a possible minute opening among the irregularities of the cicatricial mass at the back of the throat, aid may be had from inflating the nose with a Politzer bag and watching for the passage of bubbles of air into the pharynx.

When there is no opening, or when sufficient dilatation is impracticable, a cutting operation becomes necessary. In performing this, it is well to pass a curved sound through the nostril and turning the point downward to cut upon it from the pharynx. An opening once made, it is easy to enlarge it by lateral incisions. But the difficulty is to keep this opening from closing. A great many devices have been resorted to to effect this, and have been in some degree successful. They all start from the idea of interposing a mechanical resistance to the tendency to re-adhesion of the divided surfaces. Champonier employed a flattened silver tube, which he introduced into the wound, and which was retained in its position by light clamps em-

bracing the last molar teeth on the upper jaw. This did fairly well, but it permitted the regurgitation of liquids and even of solids through the nose. A temporary expedient to be employed immediately after the operation is the use of a band of india-rubber passed through each nostril by means of a Bellocq's canula, and placed in the corresponding angle of the wound, the end being brought out of the mouth and united with the other extremity. The tension should be just sufficient to secure fixity of position. At the end of two or three weeks the healing will be so far advanced that a permanent apparatus may be adjusted, or the daily use of a bougie may be begun.

Kuhn has obtained a very good result by means of a plate of gutta-percha suspended in the pharynx from two wires passing through the nares. The plate extends above and below the line of incision, and effectually prevents re-adhesion. It requires to be worn permanently, or, at least, for a long period. This apparatus has the advantage over that of Champonier, that it permits approximate closure of the opening during deglutition, and thus avoids regurgitation by the nose.

Some two years ago I called the attention of the profession to a peculiarity in the caustic action of monochloroacetic acid, viz., that the eschar remains attached until cicatrization has taken place beneath it. Dr. Delavan has made a very ingenious application of this observation in a case of adherent velum which, by his kind permission, I am enabled to show to you to day. In this case the uvula was firmly united to the pharyngeal wall, as was also a considerable portion of the velum on each side. In fact, there was adhesion along the whole of the margin of the soft palate except at two points,—one on either side of the uvula. The adhesion between these points was divided with curved scissors, and the raw surfaces were freely cauterized with monochloroacetic acid. *Although they remained in contact afterward, no adhesion took place* and the operation has proved a permanent success. That this is due to the use of the acid does not, I think, admit of doubt.

The effect is to interpose two layers of firmly adherent

devitalized tissue between the healing surfaces, thus preventing their adhesion to each other more perfectly than could be effected by the use of charpie, india-rubber bands, gutta-percha plates, etc.

Should the results in other cases correspond with this, it will constitute a new era in the treatment, not only of adhesion of the velum, but also of injuries between the fingers, at the angle of the mouth, at the junction of the lobe of the ear with the face, etc.

Much can be done to prevent the occurrence of adhesions during the healing of ulcers in the pharynx by the diligent use of astringent applications, and the daily or more frequent separation of surfaces threatening to adhere. The plan suggested by Dr. Delavan would probably have also a prophylactic value.

